UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 July 2007</u>.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-16</u> is/are pending in the application.
　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-16</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
　　a)☐ All　b)☐ Some * c)☐ None of:
　　　1.☐ Certified copies of the priority documents have been received.
　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.
　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claims 10 and 11 objected to because of the following informalities: it appears as

if claims 10 and 11 should depend on claim 6. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

3.   Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

4.   Claim 11 recites the limitation "the node" in line 1. There is insufficient

antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chow et

al. (US Patent 7072300 B1), in view of Chaskar (US Patent 7023820 B2).

3.   In regards to claim 1, Chow shows in figure 3 a multiport switch inclusive of a

port filter 316, an action generator 318 and an action tag generator 340. The port filter

316 may include logic for determining policy information associated with the received

data frames (filtering a packet of data for an application associated therewith) (see

column 7, lines 6-8). The port filter may apply policy rules to the received data frames

to identify one or more policy equations relating to the data frames; furthermore, the

action generator component 318 in conjunction with action tag generator 340, operates

upon the result of the port filter 316 to generate an action tag for each of the received

data frames (applying a service marking to the packet) (see column 7, lines 8-11 and

column 7, lines 16-20). A policy equation may specify the type of processing to be

given to a received data frame, such as whether the data frame should receive

expedited, assured, or default processing (the service marking dependent on the

application associated with the packet) (see column 7, lines 11-15). Chow discloses the

above-mentioned filtering and application process for an Ethernet network and fails to

teach such an application being applied to a mobile telecommunication network.

However, Chaskar teaches applying differential services in a mobile

telecommunications network (see figure 3, an intermediate node).

Therefore, it would have been obvious for one of ordinary skill in the art at the

time the invention was made to incorporate the filtering and application process taught

by Chow into the differential services intermediate node taught by Chaskar. The

motivation to do so would be to provide a technique that supports various QoS classes

across a GPRS core network (see column 3, lines 31-33 in Chaskar).

In regards to claim 2, Chow shows in figure 3 a multiport switch inclusive of a

port filter 316, an action generator 318 and an action tag generator 340. The port filter

316 may include logic for determining policy information associated with the received

data frames (reading a port from the packet and determining the application form the

read port) (see column 7, lines 6-8).

In regards to claim 3, figure 4 in Chow is a diagram of action generator

component 318, port filter 316, and action tag generator 340. Decoder 411 in the action

generator component 318, receives the policy information from port filter 316 as an

identification of one or more applicable policy equations. The decoder 411 in response

may select the highest priority policy equation as a match. Decoder 411 then outputs

an address corresponding to the matched policy equation to action memory 412

(interrogating a table with the read port), which uses the address to output an action tag.

Action memory 412 may be constructed as a table having 64 row entries, each

corresponding to one of the 64 bit policy equations (the table including an index of at

least one port, each of the at least one port comprises a key of the table (one of the 64

bit policy equations)) (see column 7, lines 56-67). Furthermore, a policy equation may

specify the type of processing to be given to a received data frame, such as whether the

data frame should receive expedited, assured, or default processing (a record having a

service marking respectively associated with each of the keys) (see column 7, lines 11-

15).

Furthermore, as stated above, the decoder 411 in response the received policy

information from the port filter 316 may select the highest priority policy equation as a

match (determining the read port has a match with a first one of the keys of the table)

(see column 7, lines 58-61).

Furthermore, decoder 411 may output the number of the selected policy equation

(1-64) which directly address the appropriate row of the action memory 412 (returning

the service marking included in the record associated with the first one of the keys) (see

column 7, line 67 and column 8, lines 1-3).

In regards to claim 4, result tag interface 413, in response to receiving the DSCP

field from state machine 410 and the table entry 500 from action memory 412,

generates a complete action tag and forwards it to action tag generator 340 (see

column 8, lines 33-44). Figure 6 is a diagram of an action tag 600 generated by result

tag interface 413 and received by action tag generator 340. The DSCP/priority field

605-610 may include data that identifies a service that is to be provided or a priority that

is to be given to the data frame (writing the service marking included in the record

associated with the first one of the keys into a field of the packet) (see column 8, lines

51-55).

In regards to claim 5, The DSCP/priority field 605-610 may include data that

identifies a service that is to be provided or a priority that is to be given to the data

frame (see column 8, lines 51-55).

In regards to claim 6, figure 4 in Chow is a diagram of action generator

component 318, port filter 316, and action tag generator 340. Decoder 411 in the action

generator component 318, receives the policy information from port filter 316 as an

identification of one or more applicable policy equations. The decoder 411 in response

may select the highest priority policy equation as a match. Decoder 411 then outputs

an address corresponding to the matched policy equation to action memory 412

(interrogating a table with an identification of an application obtained from the packet),

which uses the address to output an action tag. Action memory 412 may be

constructed as a table having 64 row entries, each corresponding to one of the 64 bit

policy equations (the table including an index including at least one key (one of the 64

bit policy equations)) (see column 7, lines 56-67). Furthermore, a policy equation may

specify the type of processing to be given to a received data frame, such as whether the

data frame should receive expedited, assured, or default processing (each key having a

record associated therewith, each record having a service marking therein respectively

associated with each of the keys) (see column 7, lines 11-15).

Furthermore, as stated above, the decoder 411 in response the received policy

information from the port filter 316 may select the highest priority policy equation as a

match (see column 7, lines 58-61).

Furthermore, decoder 411 may output the number of the selected policy equation

(1-64) which directly address the appropriate row of the action memory 412 (the service

marking returned upon a match between the identification and one of the keys) (see

column 7, line 67 and column 8, lines 1-3).

Chow discloses the above-mentioned filtering and application process for an

Ethernet network and fails to teach such an application being applied to a mobile

telecommunication network.

However, Chaskar teaches applying differential services in a mobile

telecommunications network (see figure 3, a SGSN , an intermediate node 304, a

GGSN (any of which read on a node of a mobile telecommunications network operable

to deliver at least one packet to a mobile device serviced by the mobile

telecommunication network). Furthermore, since the SGSN, the intermediate node and

the GGSN are all inter face with each other so Chaskar also reads on an interface to at

least one other network node.

Therefore, it would have been obvious for one of ordinary skill in the art at the

time the invention was made to incorporate the filtering and application process taught

by Chow into the differential services intermediate node taught by Chaskar. The

motivation to do so would be to provide a technique that supports various QoS classes

across a GPRS core network (see column 3, lines 31-33 in Chaskar).

In regards to claim 7, Chow in combination with Chaskar teaches all the

limitations of parent claim 6. Since Chow fails to show a mobile network, Chow also

fails to show an access router that interfaces the mobile telecommunications network

with an external network.

Chaskar however shows a GGSN in figure 3.

Therefore, it would have been obvious for one of ordinary skill in the art at the

time the invention was made to incorporate the filtering and application process taught

by Chow into the differential services intermediate node taught by Chaskar. The

motivation to do so would be to provide a technique that supports various QoS classes

across a GPRS core network (see column 3, lines 31-33 in Chaskar).

In regards to claim 8, result tag interface 413, in response to receiving the DSCP

field from state machine 410 and the table entry 500 from action memory 412,

generates a complete action tag and forwards it to action tag generator 340 (see

column 8, lines 33-44). Figure 6 is a diagram of an action tag 600 generated by result

tag interface 413 and received by action tag generator 340. The DSCP/priority field

605-610 may include data that identifies a service that is to be provided or a priority that

is to be given to the data frame (writing the returned service marking into a field of the

packet) (see column 8, lines 51-55).

In regards to claim 9, The DSCP/priority field 605-610 may include data that

identifies a service that is to be provided or a priority that is to be given to the data

frame (see column 8, lines 51-55).

In regards to claim 10, The DSCP/priority field 605-610 may include data that

identifies a service that is to be provided or a priority that is to be given to the data

frame (see column 8, lines 51-55).

In regards to claim 11, Chow in combination with Chaskar teaches all the

limitations of parent claim 6. Since Chow fails to show a mobile network, Chow also

fails to show the node being a general packet radio services support node.

Chaskar however shows a GGSN and an SGSN in figure 3.

Therefore, it would have been obvious for one of ordinary skill in the art at the

time the invention was made to incorporate the filtering and application process taught

by Chow into the differential services intermediate node taught by Chaskar. The

motivation to do so would be to provide a technique that supports various QoS classes

across a GPRS core network (see column 3, lines 31-33 in Chaskar).

In regards to claim 12, figure 4 in Chow is a diagram of action generator

component 318, port filter 316, and action tag generator 340. Decoder 411 in the action

generator component 318, receives the policy information from port filter 316 as an

identification of one or more applicable policy equations. The decoder 411 in response

may select the highest priority policy equation as a match. Decoder 411 then outputs

an address corresponding to the matched policy equation to action memory 412

(interrogating a table with an identification of an application obtained from the packet),

which uses the address to output an action tag. Action memory 412 may be

constructed as a table having 64 row entries, each corresponding to one of the 64 bit

policy equations (the table comprising one or more keys and at least one record

associated with each of the one or more keys having a value indicative of an

application, each of the one or more records having a service marking stored therein

(one of the 64 bit policy equations)) (see column 7, lines 56-67). Furthermore, a policy

equation may specify the type of processing to be given to a received data frame, such

as whether the data frame should receive expedited, assured, or default processing

(each key having a record associated therewith, each record having a service marking

therein respectively associated with each of the keys) (see column 7, lines 11-15).

In further regards to claim 12, result tag interface 413, in response to receiving

the DSCP field from state machine 410 and the table entry 500 from action memory

412, generates a complete action tag and forwards it to action tag generator 340

(transmitting the packet) (see column 8, lines 33-44). Figure 6 is a diagram of an action

tag 600 generated by result tag interface 413 and received by action tag generator 340.

The DSCP/priority field 605-610 may include data that identifies a service that is to be

provided or a priority that is to be given to the data frame (writing the returned service marking into a field of the packet) (see column 8, lines 51-55).

Chow discloses the above-mentioned filtering and application process for an Ethernet network and fails to teach such an application being applied to a mobile telecommunication network.

However, Chaskar teaches applying differential services in a mobile telecommunications network (see figure 3, an intermediate node, a GGSN and a SGSN (any of which can be a service node), a BSS (a base station sub system and a BTS since a BTS in included in a BSS)).

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to incorporate the filtering and application process taught by Chow into the differential services intermediate node taught by Chaskar. The motivation to do so would be to provide a technique that supports various QoS classes across a GPRS core network (see column 3, lines 31-33 in Chaskar).

In regards to claim 13, Chow shows in figure 3 a multiport switch inclusive of a port filter 316

In regards to claim 14, The DSCP/priority field 605-610 may include data that identifies a service that is to be provided or a priority that is to be given to the data frame (see column 8, lines 51-55).

In regards to claim 15, the multiport switch (a switch cannot operate without some sort of a processing unit (CPU)) in Chow is inclusive of an action generator 318

which further includes action memory 412 (a memory bank), a port filter 316 (a filter, a

port number field of the packet read by the filter).

Furthermore figure 4 in Chow is a diagram of action generator component 318,

port filter 316, and action tag generator 340. Decoder 411 in the action generator

component 318, receives the policy information from port filter 316 as an identification of

one or more applicable policy equations. The decoder 411 in response may select the

highest priority policy equation as a match. Decoder 411 then outputs an address

corresponding to the matched policy equation to action memory 412 which uses the

address to output an action tag. Action memory 412 may be constructed as a table

having 64 row entries, each corresponding to one of the 64 bit policy equations (the

value of the port number read used by the node to interrogate the table) (see column 7,

lines 56-67). Furthermore, a policy equation may specify the type of processing to be

given to a received data frame, such as whether the data frame should receive

expedited, assured, or default processing (see column 7, lines 11-15).

In regards to claim 16, the multiport switch (a switch cannot operate without

some sort of a processing unit) in Chow is inclusive of an action generator 318 which

further includes action memory 412 (a memory modules), a port filter 316 (a filter

operable to analyze the packet and determine the value indicative of the application).

Furthermore figure 4 in Chow is a diagram of action generator component 318,

port filter 316, and action tag generator 340. Decoder 411 in the action generator

component 318, receives the policy information from port filter 316 as an identification of

one or more applicable policy equations. The decoder 411 in response may select the

highest priority policy equation as a match. Decoder 411 then outputs an address

corresponding to the matched policy equation to action memory 412 which uses the

address to output an action tag. Action memory 412 may be constructed as a table

having 64 row entries, each corresponding to one of the 64 bit policy equations (see

column 7, lines 56-67). Furthermore, a policy equation may specify the type of

processing to be given to a received data frame, such as whether the data frame should

receive expedited, assured, or default processing (see column 7, lines 11-15).

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to JAY P. PATEL whose telephone number is (571)272-

3086. The examiner can normally be reached on M-F 9:00 am - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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